Hearing and Sight Conservation Program

A-4J-0020

ASO-6

September 2, 2016

EOs

- **EO #06-1 IDENTIFY the various elements of the Hearing Conservation Program**
- **EO #06-2 DEFINE the duties and responsibilities of the Safety Officer within the Hearing Conservation Program**

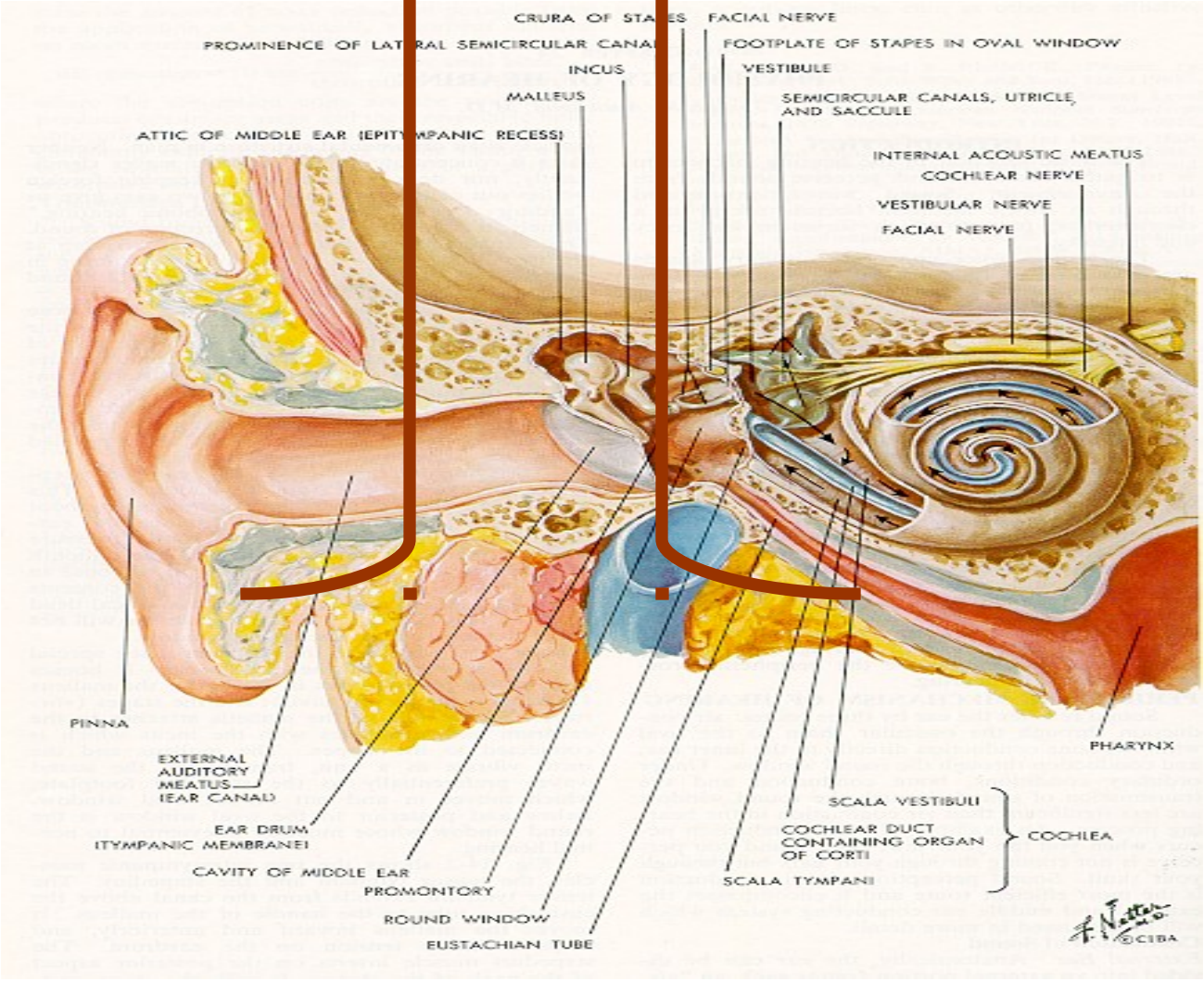
EOs

- **EO #06-3 IDENTIFY the various elements of the Sight Conservation Program**
- **EO #06-4 DEFINE the duties and responsibilities of the Safety Officer within the Sight Conservation Program**

References

- OPNAVINST 5100.19E
- 29 CFR, 1910.95, Occupational Noise Exposure
- General Specifications for Overhaul (GSO), Section 644

Anatomy of the Ear



Effects of Noise

- Dizziness
- Headaches
- Hearing loss
  - Acute exposure
  - Chronic exposure
- Mishaps
  - Loss of concentration

Noise Control

- Control like any other hazard
  - Substitution
  - Administrative control
  - Engineering controls
  - PPE

Substitution / Engineering Controls

- Re-design
- PMS
- Isolation
- New technology

Administrative Controls

- Post areas / equipment
- Establish a clear policy
- Train personnel
- Enforce the rules
- Leadership by example

Posted Areas

- Equipment / area
- Hand tools
- State conditions

Condition
s

NAVMED 6260/2

NSN: 0105-LF-

What's Wrong Here?

Typical A-Weighted Sound levels

- Pneumatic Chipper at operator's ear 120 dB
- Accelerating motorcycle at 1 meter 110 dB
- Shouting at 1.5 meters 100 dB
- Lawnmower at operator's ear 90 dB
- Freeway traffic at 50 meters 70 dB
- Normal male voice at 2 meters 60 dB
- Suburban area at night 40 dB
- Anechoic sound testing chamber 10 dB

Watch These Areas

• Galley and Scullery	Often Exceeds 84 dB (A)
• Compressed Air	" "
• Grinders	" "
• Ventilation	" "
• Electric Motors	" "
• Emergency Diesel Generator	Often Requires Double Protection - Mark on Sign
• Needle Guns	" "
• Air Ops	" "
• XO/CO	" "

How Much Noise is Too Much?

- If you have to yell or speak loudly to be understood at an arm's length away
- If your ears are ringing when you leave the area
- If you have difficulty hearing a normal conversation after work
- If you get headaches or feel dizzy from the noise

Training

- Initial and annual
- All hands during I-Div
- All personnel in HCP annually
- Must Address Specific Topics
- Training - the Audiometric providers should provide some Training

Program Elements

- ID the hazards
- Apply controls
- Monitor workers
- Train the crew

Exposure Assessment

- IH or Occupational Audiologist
- Sound level meter
- Calibrated equipment
- Weighted Scales: “A” (human hearing) & “C” (engineering scale)
- IH Survey or stand alone report
- Findings placed on schematic or table

The Decibel

- The decibel (dB) is used to describe levels of acoustic power, sound pressure, hearing thresholds, etc…
- The decibel is a dimensionless unit related to the logarithm of the ratio of a measures quantity to a reference quantity

Hazardous Levels

- US Navy
  - 84 dB (A) continuous
  - 140 dB (A) impact
  - 104 dB(A) double
- OSHA
  - 90 dB (A)

earmuffs,

Hearing Protection

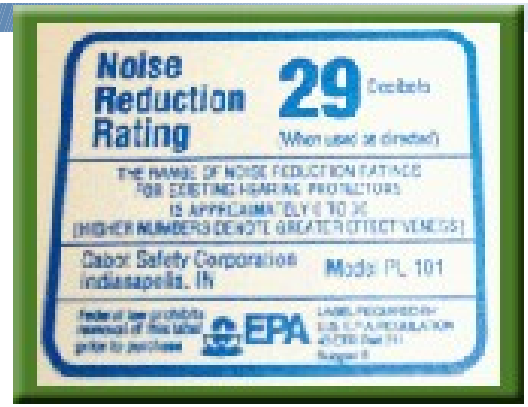
- **Disposable**
  - **Sanitation**
  - **Cost**
  - **FOD / floaters**

- **Reusable**
  - **Must be fitted**
  - **Must be cleaned**
  - **Less comfortable**

- **Either type is acceptable**

Hearing Protection Requirements

- **Single: 84 – 103 dB(A)**
  - **Plugs NRR is approx 29 dB**
  - **Muffs NRR is 20 – 27 dB**
- **Double: 104 dB(A)**
  - **Plugs and muffs**
  - **NRR about 30 – 35 dB**
- **Extreme exposures**
  - **Double protection & shorten stay times**



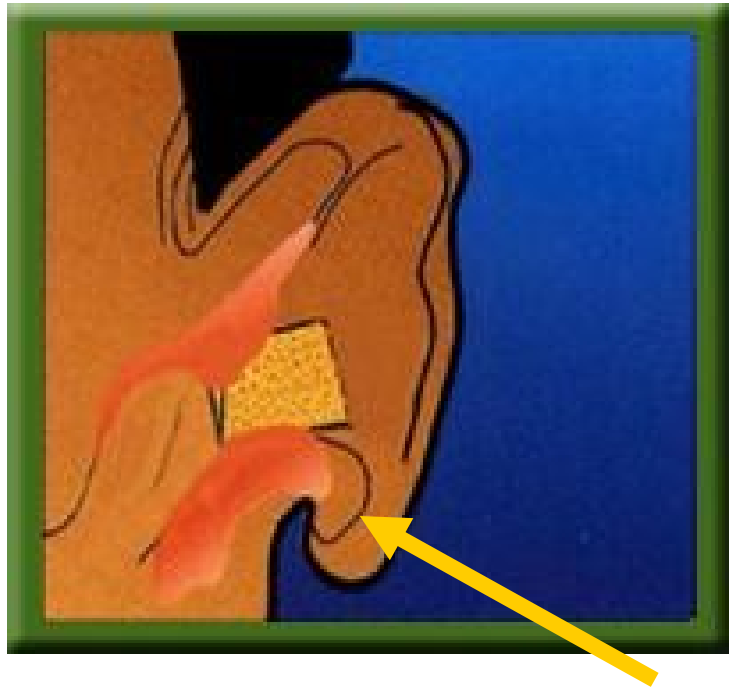
29dB

25dB

Common Problems

- **Circumaural Muffs**
  - **Dried, cracked or hard**
  - **Not worn correctly (or at all!)**
- **Plugs**
  - **Not worn correctly**

Which One is Correct?



Medical Surveillance

- **Baseline audiogram**
  - **All hands**
- **Annual audiograms**
  - **As required**
  - **Onboard (large decks) or ashore**
- **Significant Threshold Shifts (STS)**
  - **Require follow up testing to confirm**
  - **Work-related STS requires WESS report**
  - **Instantaneous events reported as injuries**

Medical Department

- Maintain roster of personnel in Hearing Conservation Program
- Conduct Hearing Conservation orientation for all hands during I-Div
- Ensure annual refresher training is conducted
- Report Permanent Threshold Shifts

Safety Officer Responsibilities

- Maintain a list of noise hazardous areas & equipment
- Treat STS as potential safety hazard
- New equipment, noise survey (30 days)
- Program evaluation (Checklist)

Loud Enough?

Troy Irving's 18-year-old Dodge Caravan has a heck of a sound system: 72 amplifiers -- you got it, 72 -- and 36 big 16-volt batteries to put out the 130,000 watts of power needed to rumble his nine 15-inch subwoofers.

177.6 dB

Summary

- **Noise-induced hearing loss is the Navy's number one occupational health hazard**
- **At some point almost everyone in the Navy will be exposed to high intensity noise**
- ***Most Noise induced Hearing Loss Occurs Between the 5th and 10th Year of Exposure to Hazardous Noise Levels***

Summary

- Hearing – once it's gone, it's gone forever
- Medical may run it, but you own it
- Leadership will make or break your program

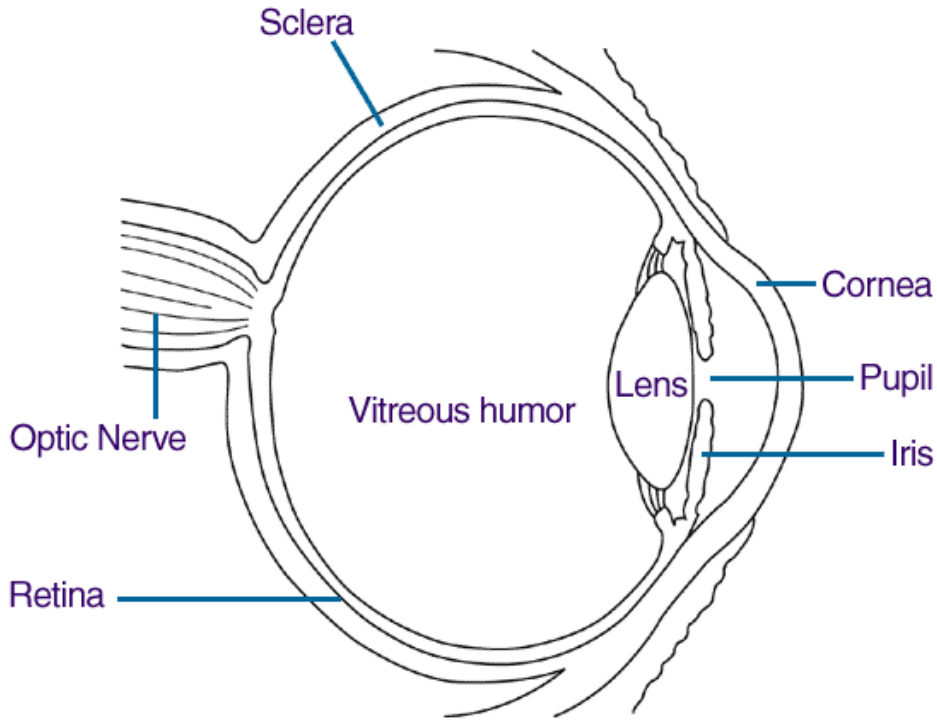
Sight Conservation

Wore His Goggles

PPE Saves Sight!

Eye's Defenses

- Tears
- Eyelid
- Cornea
- Retina



Causes of Injuries

- Foreign bodies
- Chemical burns
- Radiation burns
- Lasers

Program Elements

- Identify Hazards
- Engineering controls
- Post warning signs
- Screening
- Protection

Safety Officer Responsibilities

- Program manager
- ID eye hazards
- Maintain list of eye hazard areas & processes
- Report mishaps
- Evaluate program annually

Eye Protection

- Wear it
- Supervisors set example
- Guests
- Hobbies and sports too!

Emergency Eyewash Stations

- In all areas where eyes may be exposed to corrosive materials
- Must be available and easily accessible
- As close as possible to the hazard
  - < 10 Seconds
  - < 100 Feet

These are NOT Authorized

Problem Areas

- Eyewash stations were not installed where required
- Plumbed eyewash stations had inoperable parts and/or did not reflect proper PMS (MIP 6600)
- Required eyewash signs were missing

Summary

- Know your eye hazardous areas & processes
- Identify and use proper eye protection
- Consult your IH Survey
- Check your ship’s eye wash stations

Any Questions?